

HOW TO... Use Data Validation in Excel

If you're fed up with correcting other people's silly spreadsheet errors manually, help is at hand. Janet Swift shows you how Excel's Data Validation tool can help

When you've designed a spreadsheet for others to use to enter information, it can be annoying when they enter incorrect or plain stupid values. You can prevent this happening if you use the Data Validation facility in Excel. Data Validation stops people making silly mistakes. You can include pop-up tips for users who are unfamiliar with the system and, when users are entering specific details such as names, make their task easier by providing a pop-up list of options to choose from.

Our example here is for a tennis court booking system, but data validation can be applied just as easily to other spreadsheets designed for other users to complete.

1 To follow this tutorial exactly as shown, find the BookingForm.xls workbook supplied on the cover disc. Open it and enter a date in cell B2 next to Period Ending. Click in cell B3 and select Validation from the Data Menu.

2 There are six tennis courts at our make-believe tennis club. We want to restrict the input to the court number cell B3 to a whole number in the range 1 to 6. In the Data Validation dialog box, click on the Allow box

drop-down arrow and select Whole Number from the drop-down menu. The Data box is no longer greyed out. If you click on its drop-down menu, you will find a range of choices. There's no need to change anything as we want Between, which is already selected. Just enter 1 in the Minimum box and 6 in the Maximum box.

3 With the Data Validation dialog box still open, click on the Input Message tab. On this tab you can create a message that displays when the cell is selected. We've put Court Choice in the Title box. In the Input Message box we've written 'Enter the court number: courts 1 to 4 are outdoor; courts 5 and 6 are indoor'. When you've finished this, click OK.

4 Back at the spreadsheet, click on another cell and then on B3 again to select it. This time the pop-up message box you created will appear. If you enter a number between one and six, the cell will accept it. But if you try entering 13, for example,

an error message will appear to tell you that your choice is invalid. Click Retry to enter a permitted number.

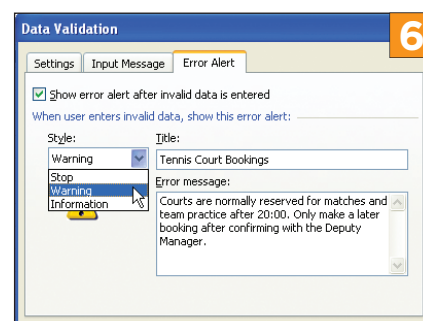
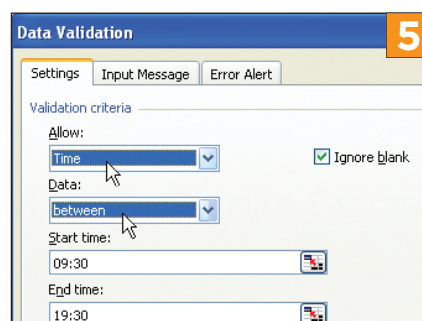
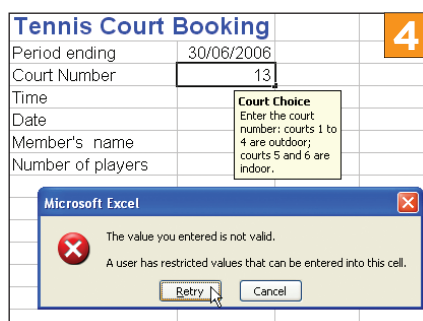
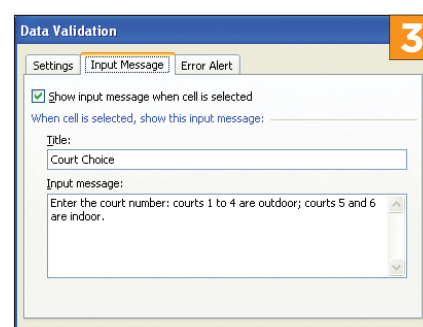
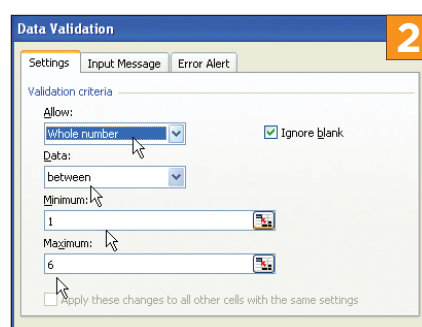
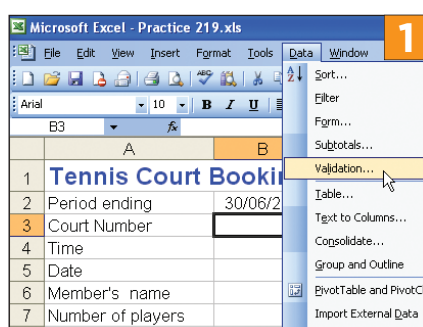
5 Select cell B4, which is the booking time. Open the Data Validation dialog box again. Set the entry in the Allow box to Time, and the Data box to Between. The courts at our fictitious club are available for general play between 9.30am and 7.30pm, so enter 09:30 as the Start time and 19:30 as the End time.

6 With the Data Validation box still open, click on the Error Alert tab. As you saw in Step 4, the error message that appears

by default when you make an incorrect entry in a validated cell doesn't offer the user much guidance on making a correct entry. But you can customise the error message on this tab. Whatever you enter in the Title box will appear in the blue bar at the top of the Error message. Here we have entered Tennis Court Bookings as the title. Our error message says 'Courts are

EXPERT TIP

To remove Data Validation from a cell, select the cell and use the Data Validation command to open the dialog box. Click the Clear All button on any of its tabbed panes. This clears the condition to be met and any messages you have created in a single operation.



normally reserved for matches and team practice after 20:00 so only make a later booking after confirming with the Deputy Manager.'

Then click the down-pointing arrow to the right of the Style box. Here you have three choices. Stop blocks an invalid entry. The other options enable the user to override the cell's validation parameters. Information provides a gentle reminder and two buttons, OK and Cancel. Warning provides a stronger message asking if the user wants to continue, plus three buttons – Yes, No and Cancel. No is pre-selected. We chose Warning, as the user may need to override the validation parameters if they do have permission to play a later game.

7 Cell B5 is where the booking date is entered. This needs to be restricted to between one day later than the day on which the booking is made and the end of the current booking period. Open the Data Validation dialog box again. On the Settings tab, select Date from the Allow menu and Between in the Data box. In the Start date box, enter =TODAY()+1. In the End date box, enter a reference to the cell where the date for the end of the current booking period is specified. In our example this is cell B2, so type =B2. Adjust the message boxes for this cell in the Input Message and Error Alert tabs to reflect the requirements of this cell. See what happens when you type a previous date, one beyond 30/06/06 or a text string such as abcd into the field.

8 The next cell to validate is B6. This one will rely on a complete list of members' names. As this will be a long list, we won't be able to enter it in the Source box of the Data Validation dialog box (for more on the Source box, see Step 10). Instead, we'll set up a list on another worksheet in the same workbook that can be referred to, and we'll protect this so changes cannot be made by unauthorised users.

The supplied workbook already has a second sheet called Members, which shows the names of members and the number of guests they can invite to play. We've already defined name ranges

Defining a named range

Excel allows you to give a cell, or a collection of cells, a name. This makes creating formulae a lot easier. For instance, would you be more likely to remember that you needed to enter C1 when including a tax rate in a formula, or would it be easier just to have to write taxrate in the formula? It also makes the formula more meaningful and an awful lot easier to read.

To name a range, select the cell or cells it is to be applied to. From the Insert menu select Name, then Define. In the dialog box that appears enter an appropriate name,

which can't have any gaps. If you want to use two words either put them together, for example TaxRate, or use an underscore, for example Tax_Rate. If you want to add extra items at a later date, make sure you insert them within the named range of cells, rather than inserting a line of cells at the end or top. If needed, use the Sort command in the Data menu to re-order the range correctly.

We also covered naming ranges of cells in 'How To... Create a time tracker', *Shopper* March 2006. A copy of this article is included on the cover disc.

for these: memnames and memguests. To see a range, click on the drop-down menu to the left of the formula bar and select a name. When you're applying this tutorial to your own worksheets, make sure you name the data ranges. For more information on how to do this, see the Defining a named range box above.

9 You don't want users to be able to change these lists on a whim, so make sure you enable protection on this sheet of the workbook. From the Tools menu, select Protection then Protect Sheet. In the dialog box that appears, enter a password. Make sure it is something you'll remember. As this is just a demonstration, enter something easy such as abcd. Click OK. You'll be asked to re-enter the password. Do so and click OK again.

10 Return to Sheet 1. Click in cell B6 to select it and open the Data Validation dialog box. From the Allow drop-down menu, select List. In the Source box enter a reference to the name of the first range by typing =memname. Add an input message, set the error alert to Warning and click OK. To see what we entered, have a look at the screenshot for Step 11. It is possible to enter an entire list in the Source box, as long as it is short and each item is separated by a comma.

11 When you click on B6, an arrow appears. Click on the arrow to access the drop-down list and select a name from the list. If a name isn't on the list, you can just type it in. You will get the error message that we set up in Step 10. Click on Yes and don't forget to update your member list.

12 Finally, we'll deal with the number of players. Select B7 and open the Data Validation dialog. Select Whole Number in the Allow box. For this we want to restrict users to entering a number between one (practising their serve, perhaps) and a value depending on the number of guests that a member can sign in. So the entry in Minimum is 1.

For Maximum we are going to look up the number of guests the member can invite in the range defined as memguests in the Members sheet. Enter the formula =VLOOKUP(B6, memguests,2)+1. This looks up the member's name in B6 and returns the value in the second column of the range memguests (that is, the column headed Guests). If you are unsure how the VLOOKUP function works, read 'How To... Create a time tracker', *Shopper* March 2006, which is on the cover disc. The +1 at the end of the formula adds the member who will be playing in addition to the guests.

